

Future Water Demand in the Clark Fork Basin

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Water Supply and Growth in the Clark Fork River Basin

March 10—Missoula

DNRC has estimated future water demand for the Clark Fork Basin as part of the effort to obtain water service contracts from the U.S. BOR's Hungry Horse Reservoir.

Background

- Clark Fork River Basin Task Force's 2004 Watershed Management Plan recommended that DNRC explore options for contracting for water from Hungry Horse Reservoir to meet increasing demand for water in western Montana.
- Task Force's Plan largely adopted as State Water Plan section in 2005.
- 2005 Legislature's House Joint Resolution No. 3 urged DNRC to "enter into negotiations with [BOR] to determine the availability and cost of water stored behind Hungry Horse Dam" and to report on "the results of these negotiations."
- DNRC began discussions with BOR in 2006 and submitted its report in December 2006.

Contracting with BOR

- Contracted water would likely be used to offset impacts of new municipal and industrial uses throughout the basin to senior downstream water rights.
- Contracting process includes several technical, negotiation, and approval steps as well as compliance with NEPA, Fish and Wildlife Coordination Act, National Historic Preservation Act, and Endangered Species Act.
- One of the initial steps is a Cost Reallocation Analysis required to allocate project costs to authorized, new purposes under anticipated new operation criteria.
- Costs of the analysis are to be borne by the party requesting the contract—in this case, the State of Montana.
- The 2007 Legislature appropriated \$260,000 to DNRC to pay for BOR's cost reallocation analysis for Hungry Horse Reservoir.
- To begin the analysis, BOR will require a proposed project use and an associated annual water volume on which to base the analysis.

Basin Population Projection

- Clark Fork Task Force's Watershed Management Plan included basin population estimates of 266,014 for 1990 and 316,188 for 2000—an increase of 19 percent.
- Extrapolating that rate provides estimated basin populations of 375,829 for 2010 and 891,698 for 2060—a population increase of 515,868 over the likely term of a contract.
- Assuming an average of 2.3 occupants per household, the estimated number of households by 2060 is 224,291.

Estimates of Future Water Demand

- Estimates provided by Russell Levens of DNRC.
- The estimates are not based on extensive modeling; no consideration for location of growth within the basin.
- Rely on data contained in Mountain Water Company's PSC filing.
- Mountain Water Company serves residential, commercial, industrial, irrigation, and public customers such as schools, parks, and other public facilities—uses likely to be found in the future throughout the Clark Fork. While estimates are expressed on a household basis, they reflect water use by various customer classes.
- Because Hungry Horse water is expected to be used to offset impacts of future groundwater development to downstream water rights, estimates rely on water consumption by Mountain Water customers.
- Based on annual water consumption by Mountain Water Company residential customers of 0.24 acre-feet per household, annual water consumption associated with the Basin's 224,291 additional households in 2060 would be **54,264 acre-feet**.
- Based on annual water consumption by all Mountain Water uses of 0.29 acre-feet per household, annual water consumption associated with the Basin's 224,291 additional households in 2060 would be **62,071 acre-feet**.
- Including “unaccounted” water with all Mountain Water uses results in annual water consumption per household of 0.67 acre-feet, implying additional annual Basin water consumption in 2060 of **150,336 acre-feet**.
- Estimates based on other data fall within the range of the Mountain Water estimates.